

AUSTRALIAN PATENT OFFICE

EXAMINATION REPORT

Applicant's or agents file reference CG/RFCH(LYX)/PAT/8112863/SG		
Application No. SG 200301781-1	Application Filing Date <i>(day/month/year)</i> 20 July 2001	Priority Date <i>(day/month/year)</i> 20 July 2000
International Patent Classification (IPC) as indicated in the search report or the Request, if no indication in the search report Int. Cl. A61B 3/107 (2006.01) A61F 9/007 (2006.01) Action Date: 03 October 2006		
Applicant OHIO STATE UNIVERSITY		

1. This REPORT consists of a total of 4 sheets.
2. This report contains indications relating to the following items: <ul style="list-style-type: none"> I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability III <input type="checkbox"/> Lack of unity of invention IV <input checked="" type="checkbox"/> Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement V <input type="checkbox"/> Certain documents cited VI <input type="checkbox"/> Certain defects in the application VII <input checked="" type="checkbox"/> Certain observations on the application
3. This report is based upon the assumption that the priority claim is valid.
4. The search report used was issued by the Australian Office and the date of completion is 30 January 2006 .

Date of submission of the request to the Australian Patent Office 5 December 2005	Date of mailing of the report 11 OCT 2006
Name and mailing address AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. 61 2 62853929	Authorized Officer MARK COX

I. Basis of the report

1. This report has been drawn on the basis of

☐ the application as originally filed.

☒ the description, pages **1-41**, as originally filed,
pages , filed with the request,
pages , received on with the letter of
pages , received on with the letter of

☒ the claims, pages , as originally filed,
pages , filed with the request,
pages **42-46**, received on 13 July 2006 with the letter of 13 July 2006
pages , received on with the letter of

☒ the drawings, sheets/fig. **1-29**, as originally filed,
sheets/fig. , filed with the request,
sheets/fig. , received on with the letter of

☐ the sequence listing part of the description:

pages , as originally filed
pages , filed with the demand
pages , received on with the letter of

2. The amendments have resulted in the cancellation of: pages: **47-51**
sheets of drawings/figures No:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box

4. Additional observations, if necessary:

IV. Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)	Claims 1-22	YES
	Claims None	NO
Inventive step (IS)	Claims 1-22	YES
	Claims None	NO
Industrial applicability (IA)	Claims 1-22	YES
	Claims None	NO

2. CITATIONS AND EXPLANATIONS

The following document as identified in the International Search Report is considered the most relevant prior art and has been considered for this report:

D1: WO 1994/018636 A2 (ARIZONA BOARD OF REGENTS) 18 August 1994

NOVELTY (N) Claims 1-22:

D1 discloses a technique for automated design of a corneal surgical procedure which includes simulating deformation of a cornea as a result of corneal incisions, excisions, and ablations of a patient's eye in response to topographic, ultrasonic, and other measurements of a patient's eye. A finite element analysis model of the eye is constructed and measured data is interpolated and extrapolated to fit the nodes of a finite element analysis model of the eye to determine pre-operative values of curvature of the cornea and an ablation or incision specification. Data relating to hypothetical incisions and ablations are incorporated into the equations representing the finite element analysis model, from which simulated postoperative curvatures of the cornea are computed and compared to the original model, and if necessary, the surgical plan is modified until the vision objectives are met.

The surgical plan disclosed in this citation is based upon a simulated model only and does not involve perturbing a live cornea by ablating a portion of the cornea, peeling back the epithelial layer from a cornea, and deforming it to obtain a biodynamic response of that specific cornea, and providing a comparison with the first diagnostic measurements taken. Therefore claims 1-22 are novel over this document.

INVENTIVE STEP (IS) Claims 1-22:

The method described in claims 1-22 is directed towards determining a specific biodynamic response of an individual cornea to a laser ablation specification rather than a method of altering an estimated surgical plan of a simulated generic model as described in document D1, and therefore involves an inventive step over D1.

VII. Certain observations on the application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

- ☒ The claimed invention is patentable according to Section 13(2); or
- ☐ The claimed invention is unpatentable according to Section 13(2) because: